

# (12) UK Patent Application (19) GB (11) 2 341 209 (13) A

(43) Date of A Publication 08.03.2000

(21) Application No 9911904.2

(22) Date of Filing 24.05.1999

(30) Priority Data

(31) 9802077

(32) 09.06.1998

(33) BR

(71) Applicant(s)

Mario Teixeira Cavalheiro

Rua Goias, 52 Apto 61, Santos (SP), Brazil

(72) Inventor(s)

Mario Teixeira Cavalheiro

(74) Agent and/or Address for Service

G F Redfern & Co

Redfern House, 149/151 Tarring Road, WORTHING,  
West Sussex, BN11 4HE, United Kingdom

(51) INT CL<sup>7</sup>

F03B 13/00

(52) UK CL (Edition R )

F1T TFDA T111 T147

F1Q QX Q119 Q219 Q511

U1S S2081

(56) Documents Cited

None

(58) Field of Search

UK CL (Edition Q ) F1Q QBB QDC QFA QFB QX , F1S

S22 , F1T TA TB TFDA

INT CL<sup>6</sup> F03B 13/00 17/00 17/04

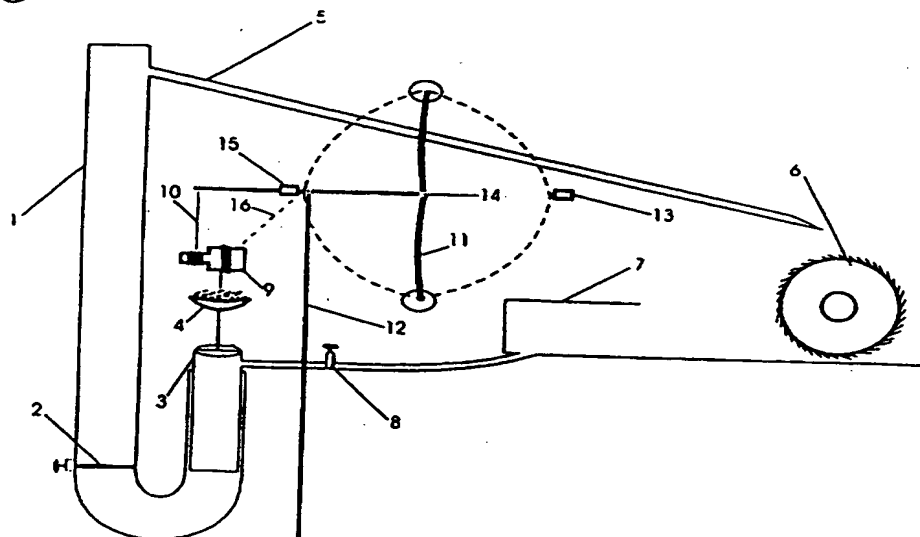
ONLINE: EPODOC, JAPIO, WPI

(54) Abstract Title

Fluid raised by pendulum for electricity generation

(57) An electric power generating machine comprises a cylinder 3 which is caused to fill and empty with water or other fluid by the movement of a wing-shaped pendulum 11. The machine also comprises valves 2,8, pipes 1,5, turbine 6 and return tank 7. The wings are opened and closed (dashed position, fig 2) about bearing 14 by engines 13,15 to exert forces to cause cylinder 3 to raise and lower. A cylinder 9 may increase the distance covered by a rope, chain, cable or belt while engines 13,15 may be electric. The wings are aligned by the movement of an eccentric. More than one cylinder 3 or turbine 6 may be provided.

Fig. 3



GB 2 341 209 A

AN

Fig. 1

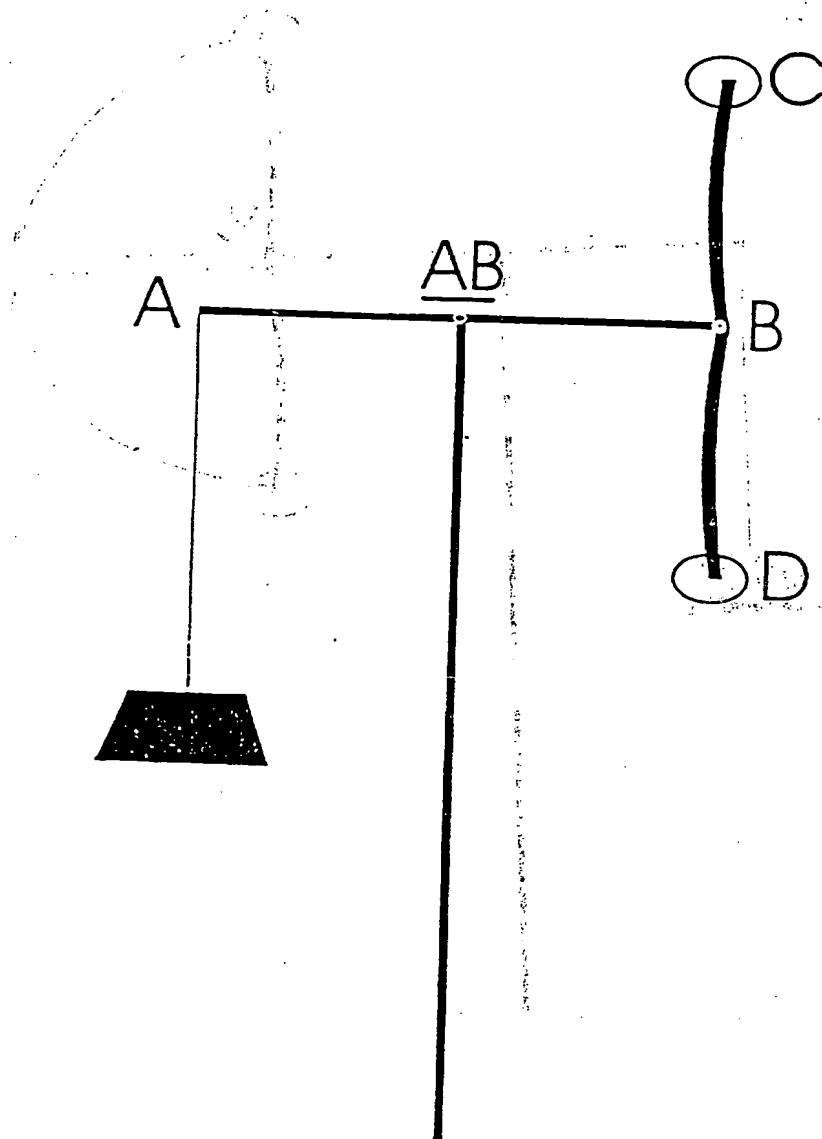
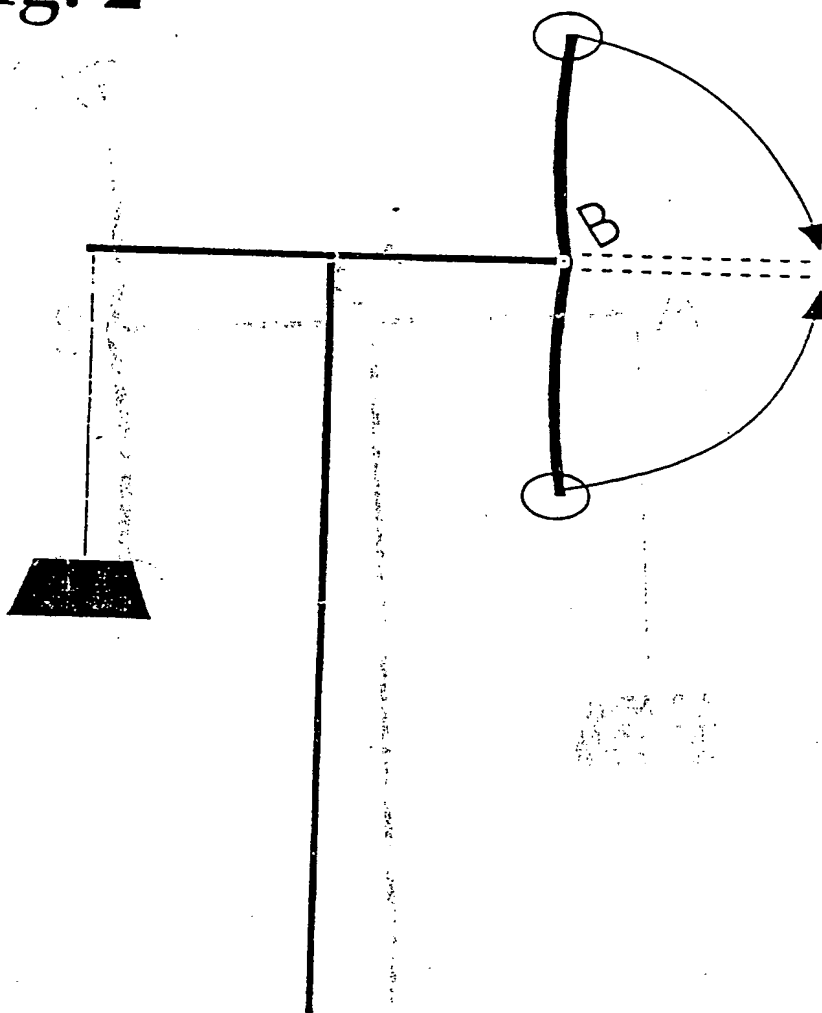
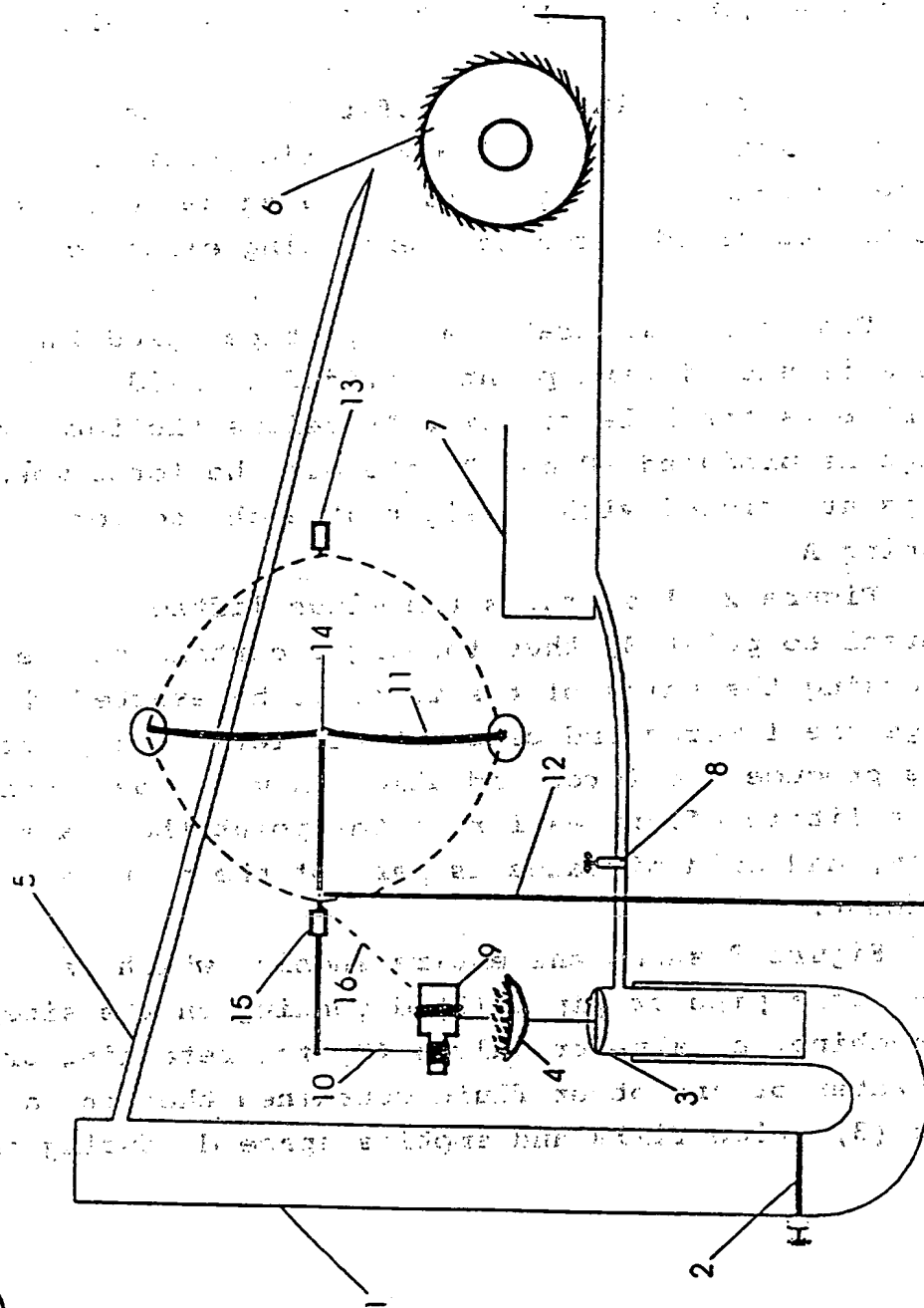


Fig. 2





AN ELECTRIC POWER GENERATING MACHINE PROVIDED WITH A  
WING-SHAPED PENDULUM FOR FILLING AND EMPTYING SPACE

The present invention refers to a machine specially design for generating electric power or other needed means which, through a wing-shaped pendulum, may provide the required force for generating electric power.

Figure 1 illustrates a wing-shaped pendulum wherein A is the lifting point provided by said pendulum, B is the balance point AB before the force of the wings is produced, C and D make out the force when the wings are closed with a weight at each end for unbalancing A.

Figure 2 illustrates the wings lifted transversal to point B, thus forming a certain degree for assessing the value of the force to be exerted when the wings are lowered and close at the levelling point and thus produce the force and allow them to open again through a little effort as far as the point they have come from, and said distance is part of the machine displacement.

Figure 3 shows the entire machine which is comprised of a pipe or pipes (1) depending on the size of the machine, a valve or valves (2) for retaining or freeing water or any other fluid contained therein, a cylinder (3) which fills and empties space depending on

the number of pipes required according to the amount of power to be produced. Thus the number of cylinders which fill and empty space is limitless. A ballast tray causes the cylinder or cylinders to move down which in turn causes the fluid contained in the water head to fall over pipe (5) as far as turbine (6) of return tank (7) which reuses the water from the turbine and said water is returned again through valve aperture (8) and cylinder or cylinders (9) which increase the distance covered by the rope or chain when exerting force on the cylinder that fills or empties space and said chain, rope or other means transmits the force to rotating cylinder through wing-shaped pendulum (11, 12), wherein said wing-shaped pendulum stops at an equilibrium point when open and brings about an unbalance when closed, thus exerting the force required to move the cylinder that fills and empties space, in such a way that the pendulum is moved upwards thus displacing the closed valve (2) of the upcoming water and causing a void which allows the return of the water through the valve aperture of return tank (7) and then reuses the whole fluid which was used in the force directed to the turbine (rotor), thus completing a full cycle. A small engine (13) which opens and closes the wings resting on bearings (14) produces freer and simpler movements and engine (15) opens them in the opposite direction (16)

thus lowering the cylinder that fills and empties the space opposite to the closing of the wings. Thus, if one desires to use the cylinder downward force he can connect a cable of the wings to the cylinder, facilitating their opening and thus eliminating the space occupied by the engine.

In the operation of the machine, see Figure 1, first of all the wings are horizontally positioned in the machine with all the weights of the assembly over same. Next, all the required weight is placed on the right side B of the pendulum, and then the equilibrium AB between the right and left sides B and A, respectively, is caused by the balance tray 4, as shown in Figure 3. Then, as shown by 14 in Figure 3, the wing-supporting bearings are positioned on a table provided with a supporting axle and an eccentric which is then rotated thus aligning the wings at a degree that allows them to slide backwards and forwards over the bearings, depending on the eccentric movement. When the wings get together, only a small force is required to initially displace same, such as engine 15 or 13 - which must not necessarily be electric engines - depending on their position. After the wings are moved forwards, opposite cylinder 3 is raised, thus starting the operation of the machine. When the wings are moved in the opposite direction, the movement of the cylinder is reversed.

As to the input energy:output energy ration, the consumption is at most 10% for an output of 90%.

## CLAIM

1. AN ELECTRIC POWER GENERATING MACHINE PROVIDED WITH A WING-SHAPED PENDULUM FOR FILLING AND EMPTYING SPACE, comprised of two reservoirs (1) for water or other fluids, one for recovering and the other for moving up the water, wherein the number thereof is limitless for it depends on the amount of water or other fluids required to displace, a cylinder (2) which fills and empties space wherein the number of said cylinders is also limitless and depend on the size of the machine, a wing-shaped pendulum (3) the wing of which is curved but can be straight but provides a better balance of weight when curved, and said machine may also be provided with more than one pendulum, the number of which depends on its size; wherein the pendulum with the wing closing and opening system provides the balance and unbalance when it is desired to split the forces so that the resulting force can be unlimited, through the return and full use of the fluid used in the recovery tank and the opening of its respective valve or valves, the number of which can be more than one and depends on the size of the machine, wherein the cylinder that transmits power to the cylinder that fills and empties space can be replaced by a hydraulic pendulum thus increasing or decreasing the stroke of the cylinder that fills and empties space.





Application No: GB 9911904.2  
Claims searched: 1

Examiner: Terence Newhouse  
Date of search: 29 December 1999

**Patents Act 1977**  
**Search Report under Section 17**

**Databases searched:**

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK CI (Ed. Q): F1Q(QBB, QDC, QFA, QFB, QX); F1S(S22); F1T(TA, TFDA, TB)

Int CI (Ed. 6): F03B 13/00 17/00 17/04

Other: ONLINE: EPODOC, JAPIO, WPI

**Documents considered to be relevant:**

Category	Identity of document and relevant passage	Relevant to claims
	None	

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

1. Identify the